1                                          **CLAIMS**

2                          What is claimed is:

1       1.      A method of dynamic network delivery selection, comprising:

2       obtaining an objective with requirements of delivery of datacasts over hybrid bearers

3   of network communications for users within an area supported by the bearers;

4       obtaining restrictions for the objective, wherein the restrictions further establish

5   requirements for the objective, wherein the restrictions establish capacity limits;

6       determining a state of the hybrid bearers of network communications,

7           wherein each type of bearer has a limited service capacity for an area,

8           wherein the determination of state establishes a required capacity for

9   datacasts,

10          wherein the datacasts are requested by users within an area supported by the

11  bearers,

12          wherein the bearers support one or more of the following: broadcast,

13  multicast, and unicast communications,

14          wherein a datacast requires capacity,

15          wherein a location of a datacast reception may move between the area

16  supported by the bearers to another area as the datacast requesting user moves,

17          wherein a location of a datacast receipt may move with the area supported by

18  the bearers from on type of bearer to another as the datacast requesting user moves;

19          obtaining inputs for the objective and restrictions,

20          wherein the inputs are obtained from the determined state;

21          generating a simulated population of bearers configurations based on the objective,

22  restrictions, state, and inputs,

23        wherein the simulated configuration that best fulfills the objective is used to

24    fulfill the objective;

25        instructing the bearers of network communications to deliver datacasts employing the

26    best generated simulated configuration;

27        transferring a user receiving a datacast from one type of bearer to another type of

28    bearer to satisfy the objective and restrictions,

29        wherein the transfer results from the instructions that are based on the best

30    generated simulated configuration as dynamically determined,

31        wherein the one type of bearer may be non-existent,

32        wherein the another type of bearer may be non-existent,

33        wherein the transfer encourages optimally satisfying the objective};

34        increasing capacity for a type of bearer in the supported area, if required to satisfy

35    requirements of the objective,

36        wherein more capacity may be added as constrained by the restrictions of the

37    objective,

38        wherein the determined state indicates that more capacity is needed;

39        decreasing capacity for a type of bearer in the supported area, if required to satisfy

40    requirements of the objective,

41        wherein more capacity may be removed as constrained by the restrictions of

42    the objective,

43        wherein the determined state indicates that less capacity is needed.

1          2.      A method of dynamic network delivery selection, comprising:

2          obtaining an objective with requirements of delivery of requested datacasts over

3 bearers of network communications for users within an area supported by the bearers;

4          obtaining restrictions for the objective, wherein the restrictions further establish

5 requirements for the objective;

6          determining a state of the bearers of network communications;

7          obtaining inputs for the objective and restrictions;

8          generating a simulated population of bearers configurations based on the objective,

9 restrictions, state, and inputs, wherein the simulated configuration that best fulfills the

10 objective is used to fulfill the objective;

11          instructing the bearers of network communications to deliver datacasts employing the

12 best generated simulated configuration.

1          3.      The method of claim 2, wherein hybrid bearers comprise the bearers of

2 network communications.

1          4.      The method of claim 2, wherein the bearers may support one or more of the

2 following: broadcast, multicast, and unicast communications.

1          5.      The method of claim 2, wherein the objective is to maximize spectrum

2 efficiency.

1          6.      The method of claim 2, wherein the objective is to minimize costs.

1          7.      The method of claim 2, wherein the objective is to minimize terminal power

2 consumption.

8.     The method of claim 7, wherein the power consumption minimization is for reception of data.

9.     The method of claim 7, wherein the power consumption minimization is for transmission of data.

10.    The method of claim 2, wherein the obtained restrictions establish capacity limits.

11.    The method of claim 2, wherein the obtained restrictions establish Quality of Service requirements.

12.    The method of claim 2, wherein a restriction limits terminal power consumption.

13.    The method of claim 12, wherein the restriction is for reception of data.

14.    The method of claim 7, wherein the restriction is for transmission of data.

15.    The method of claim 2, wherein each type of bearer has a limited datacast service capacity for an area.

16.    The method of claim 2, wherein a datacast requires capacity.

17.    The method of claim 2, wherein a location of a datacast reception may move between the area supported by the bearers to another area as the datacast requesting user moves.

18.    The method of claim 2, wherein a location of a datacast reception may move within the area supported by the bearers from one type of bearer to another as the datacast requesting user moves.

1    19.    The method of claim 2, wherein the inputs are obtained from the determined

2    state.

1    20.    The method of claim 2, wherein the inputs are provided as a set of initial

2    conditions.

1    21.    The method of claim 2, wherein the generation of a simulated population is

2    achieved through annealing.

1    22.    The method of claim 2, wherein the generation of a simulated population is

2    achieved with a Metropolis network selection.

1    23.    The method of claim 2, wherein the generation of a simulated population is

2    achieved with genetic network selection.

1    24.    The method of claim 2, further, comprising:

2    transferring a user receiving a datacast from one type of bearer to another type of

3    bearer to satisfy the objective and restrictions, wherein the transfer results from the

4    instructions that are based on the best generated simulated configuration as dynamically

5    determined.

1    25.    The method of claim 24, wherein the one type of bearer may be non-existent.

1    26.    The method of claim 24, wherein the another type of bearer may be non-

2    existent.

1    27.    The method of claim 24, wherein the transfer encourages optimally satisfying

2    the objective.

1      28.    The method of claim 2, further, comprising:

2      increasing capacity for a type of bearer in the supported area, if required to satisfy

3      requirements of the objective, wherein more capacity may be added as constrained by the

4      restrictions of the objective.

1      29.    The method of claim 28, wherein the determined state indicates that more

2      capacity is needed.

1      30.    The method of claim 2, further, comprising:

2      decreasing capacity for a type of bearer in the supported area, if required to satisfy

3      requirements of the objective, wherein more capacity may be removed as constrained by the

4      restrictions of the objective.

1      31.    The method of claim 30, wherein the determined state indicates that less

2      capacity is needed.

1      32.    An dynamic network selector apparatus, comprising:

2      a memory;

3      a processor disposed in communication with said memory, and configured to issue a

4      plurality of processing instructions stored in the memory, wherein the instructions issue

5      signals to:

6            obtain an objective with requirements of delivery of datacasts over hybrid

7      bearers of network communications for users within an area supported by the bearers;

8            obtain restrictions for the objective, wherein the restrictions further establish

9      requirements for the objective, wherein the restrictions establish capacity limits;

10           determine a state of the hybrid bearers of network communications,

11           wherein each type of bearer has a limited service capacity for an area,

12           wherein the determination of state establishes a required capacity for

13     datacasts,

14           wherein the datacasts are requested by users within an area supported by the

15     bearers,

16           wherein the bearers support one or more of the following: broadcast,

17     multicast, and unicast communications,

18           wherein a datacast requires capacity,

19           wherein a location of a datacast reception may move between the area

20     supported by the bearers to another area as the datacast requesting user moves,

21           wherein a location of a datacast receipt may move within the area supported

22     by the bearers from on type of bearer to another as the datacast requesting user moves;

23          obtain inputs for the objective and restrictions,

24          wherein the inputs are obtained from the determined state;

25          generate a simulated population of bearers configurations based on the

26  objective, restrictions, state, and inputs,

27          wherein the simulated configuration that best fulfills the objective is used to

28  fulfill the objective;

29          instruct the bearers of network communications to deliver datacasts

30  employing the best generated simulated configuration;

31          transfer a user receiving a datacast from one type of bearer to another type of

32  bearer to satisfy the objective and restrictions,

33          wherein the transfer results from the instructions that are based on the best

34  generated simulated configuration as dynamically determined,

35          wherein the one type of bearer may be non-existent,

36          wherein the another type of bearer may be non-existent,

37          wherein the transfer encourages optimally satisfying the objective};

38          increase capacity for a type of bearer in the supported area, if required to

39  satisfy requirements of the objective,

40          wherein more capacity may be added as constrained by the restrictions of the

41  objective,

42          wherein the determined state indicates that more capacity is needed;

43          decrease capacity for a type of bearer in the supported area, if required to

44  satisfy requirements of the objective,

45          wherein more capacity may be removed as constrained by the restrictions of

46    the objective,

47          wherein the determined state indicates that less capacity is needed.

1      33.    An dynamic network selector apparatus, comprising:

2      a memory;

3      a processor disposed in communication with said memory, and configured to issue a

4    plurality of processing instructions stored in the memory, wherein the instructions issue

5    signals to:

6          obtain an objective with requirements of delivery of requested datacasts over

7    bearers of network communications for users within an area supported by the bearers;

8          obtain restrictions for the objective, wherein the restrictions further establish

9    requirements for the objective;

10          determine a state of the bearers of network communications;

11          obtain inputs for the objective and restrictions;

12          generate a simulated population of bearers configurations based on the

13    objective, restrictions, state, and inputs, wherein the simulated configuration that best fulfills

14    the objective is used to fulfill the objective;

15          instruct the bearers of network communications to deliver datacasts

16    employing the best generated simulated configuration.

1      34.     A medium readable by a processor to dynamically select a network,

2   comprising:

3          instruction signals in the processor readable medium, wherein the instruction signals

4   are issuable by the processor to:

5              obtain an objective with requirements of delivery of datacasts over hybrid

6   bearers of network communications for users within an area supported by the bearers;

7              obtain restrictions for the objective, wherein the restrictions further establish

8   requirements for the objective, wherein the restrictions establish capacity limits;

9                  determine a state of the hybrid bearers of network communications,

10                  wherein each type of bearer has a limited service capacity for an area,

11                  wherein the determination of state establishes a required capacity for

12   datacasts,

13                  wherein the datacasts are requested by users within an area supported by the

14   bearers,.

15                   wherein the bearers support one or more of the following: broadcast,

16   multicast, and unicast communications,

17                  wherein a datacast requires capacity,

18                  wherein a location of a datacast reception may move between the area

19   supported by the bearers to another area as the datacast requesting user moves,

20                  wherein a location of a datacast receipt may move within the area supported

21   by the bearers from on type of bearer to another as the datacast requesting user moves;

22                  obtain inputs for the objective and restrictions,

23          wherein the inputs are obtained from the determined state;

24          generate a simulated population of bearers configurations based on the

25    objective, restrictions, state, and inputs,

26          wherein the simulated configuration that best fulfills the objective is used to

27    fulfill the objective;

28          instruct the bearers of network communications to deliver datacasts

29    employing the best generated simulated configuration;

30          transfer a user receiving a datacast from one type of bearer to another type of

31    bearer to satisfy the objective and restrictions,

32          wherein the transfer results from the instructions that are based on the best

33    generated simulated configuration as dynamically determined,

34          wherein the one type of bearer may be non-existent,

35          wherein the another type of bearer may be non-existent,

36          wherein the transfer encourages optimally satisfying the objective};

37          increase capacity for a type of bearer in the supported area, if required to

38    satisfy requirements of the objective,

39          wherein more capacity may be added as constrained by the restrictions of the

40    objective,

41          wherein the determined state indicates that more capacity is needed;

42          decrease capacity for a type of bearer in the supported area, if required to

43    satisfy requirements of the objective,

44          wherein more capacity may be removed as constrained by the restrictions of

45      the objective,

46                      wherein the determined state indicates that less capacity is needed.

1           35.     A medium readable by a processor to dynamically select a network,

2       comprising:

3                   instruction signals in the processor readable medium, wherein the instruction signals

4       are issuable by the processor to:

5                       obtain an objective with requirements of delivery of requested datacasts over

6       bearers of network communications for users within an area supported by the bearers;

7                       obtain restrictions for the objective, wherein the restrictions further establish

8       requirements for the objective;

9                       determine a state of the bearers of network communications;

10                      obtain inputs for the objective and restrictions;

11                      generate a simulated population of bearers configurations based on the

12      objective, restrictions, state, and inputs, wherein the simulated configuration that best fulfills

13      the objective is used to fulfill the objective;

14                      instruct the bearers of network communications to deliver datacasts

15      employing the best generated simulated configuration.

1      36.     A system to dynamically select a network, comprising:

2      means to obtain an objective with requirements of delivery of datacasts over hybrid

3   bearers of network communications for users within an area supported by the bearers;

4      means to obtain restrictions for the objective, wherein the restrictions further establish

5   requirements for the objective, wherein the restrictions establish capacity limits;

6      means to determine a state of the hybrid bearers of network communications,

7         wherein each type of bearer has a limited service capacity for an area,

8         wherein the determination of state establishes a required capacity for

9   datacasts,

10         wherein the datacasts are requested by users within an area supported by the

11  bearers,

12         wherein the bearers support one or more of the following: broadcast,

13  multicast, and unicast communications,

14         wherein a datacast requires capacity,

15         wherein a location of a datacast reception may move between the area

16  supported by the bearers to another area as the datacast requesting user moves,

17         wherein a location of a datacast receipt may move within the area supported

18  by the bearers from on type of bearer to another as the datacast requesting user moves;

19         means to obtain inputs for the objective and restrictions,

20         wherein the inputs are obtained from the determined state;

21      means to generate a simulated population of bearers configurations based on the

22  objective, restrictions, state, and inputs,

23          wherein the simulated configuration that best fulfills the objective is used to

24    fulfill the objective;

25          means to instruct the bearers of network communications to deliver datacasts

26    employing the best generated simulated configuration;

27          means to transfer a user receiving a datacast from one type of bearer to another type

28    of bearer to satisfy the objective and restrictions,

29          wherein the transfer results from the instructions that are based on the best

30    generated simulated configuration as dynamically determined,

31          wherein the one type of bearer may be non-existent,

32          wherein the another type of bearer may be non-existent,

33          wherein the transfer encourages optimally satisfying the objective};

34          means to increase capacity for a type of bearer in the supported area, if required to

35    satisfy requirements of the objective,

36          wherein more capacity may be added as constrained by the restrictions of the

37    objective,

38          wherein the determined state indicates that more capacity is needed;

39          means to decrease capacity for a type of bearer in the supported area, if required to

40    satisfy requirements of the objective,

41          wherein more capacity may be removed as constrained by the restrictions of

42    the objective,

43          wherein the determined state indicates that less capacity is needed.

1    37.    A system to dynamically select a network, comprising:

2          means to obtain an objective with requirements of delivery of requested datacasts

3    over bearers of network communications for users within an area supported by the bearers;

4          means to obtain restrictions for the objective, wherein the restrictions further establish

5    requirements for the objective;

6          means to determine a state of the bearers of network communications;

7          means to obtain inputs for the objective and restrictions;

8          means to generate a simulated population of bearers configurations based on the

9    objective, restrictions, state, and inputs, wherein the simulated configuration that best fulfills

10   the objective is used to fulfill the objective;

11         means to instruct the bearers of network communications to deliver datacasts

12   employing the best generated simulated configuration.

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